

COC# 204

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776

st 11115 Montgomery, Suite B, Spokane, WA 99206-4/76 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 (425) 420-9200 (509) 924-9200

924-9290

(509) 924-9200 (503) 906-9200 (541) 383-9310 924-9290 FAX 906-9210 FAX 382-7588 Turk Mandalays,

CHAIN OF CUSTODY REPORT

Work Order #: 1/107-059

CLIENT: BRISTOL					CE TO									TURN			T in Business	Days*
REPORT TO: ANNE KRANAWETTE	2			BR	151	0	-							10 7		ic & Inorgan		
ADDRESS: AMCHITKA, AK														10 7 STD.	The same of the sa		2 1 1 2 1 2 1	<1
PHONE: 907-770-0974 FAX: 7	70.	09-	75	P.O. N	UMBE	R: 2	100	30						5			2 1 <	1
PROJECT NAME: AMCHITKA								ALYSES						STL).	Plea	se Specify	
PROJECT NUMBER: 2 1090					Ę	C100									OTH	ER		
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CLIENT SAMPLE SAMPLING	(QA)	metal	0	\$	Coli	4								MATRIX	# OF			NCA WO
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ADDITIONAL REMARKS: Treatment Effloror COC REV 3/99	rent		San	V 6		#	13									T	EMP: PAC	E OF



425.420.9200 fax 425.420.9210

Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776

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Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

7 December, 2001

Anne Kranawetter Bristol Environmental & Engineering 2000 W International Airport C#1 Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are the results of analyses for samples received by the laboratory on 07/31/01 08:15. If you have any questions concerning this report, please feel free to contact me.

This report was recreated from a previously issued final report in order to provide an electronic copy. The final report used for these electronic copies may have been previously issued as an amended report due to client requested changes to sample names, etc. No data has changed since submission of the previously issued final, or amended, report.

Sincerely,

Stephen Wilson

Environmental Group Leader

1112

Work Orders included in this report:

M107059



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

08/14/01 10:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMTE13SW	M107059-01	Water	07/31/01 07:45	07/31/01 08:15

C. O. C. # 204

North Creek Analytical - Mobile Lab



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-9223 425.420.9200 fax 425.420.9210

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported: 08/14/01 10:30

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

Polychlorinated Biphenyls per EPA Method 8082 North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE13SW (M107059-01) Water					Sampled: 07/	31/01 Rece	eived: 07/31/	01	
Aroclor 1016	ND	0.200	ug/l	1	EPA 8082	08/01/01	08/01/01	0107116	
Aroclor 1221	ND	0.400	"	"	"	"	"	"	
Aroclor 1232	ND	0.200	"	"	"	"	"	"	
Aroclor 1242	ND	0.200	"	"	"	"	"	"	
Aroclor 1248	ND	0.200	"	"	"	"	"	"	
Aroclor 1254	0.288	0.200	"	"	"	"	"	"	
Aroclor 1260	ND	0.200	"	"	"	"	"	"	
Surr: 2,4,5,6-Tetrachloro-m-xylene	73.0 %	44-119							
Surr: Decachlorobiphenyl	76.5 %	54-128							

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

08/14/01 10:30

Total Metals per EPA 6000/7000 Series Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE13SW (M107059-01) Water					Sampled: 07/3	31/01 Rece	ived: 07/31/	01	
Arsenic	ND	0.00500	mg/l	1	EPA 6020	07/31/01	08/02/01	0107110	
Cadmium	ND	0.00200	"	"	"	"	"	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Lead	ND	0.00500	"	"	"	"	"	"	
Selenium	ND	0.00500	"	"	"	"	"	"	
Silver	ND	0.00200	"	"	"	"	"	"	

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

08/14/01 10:30

Conventional Chemistry Parameters per APHA/EPA Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE13SW (M107059-01) Water					Sampled: 07/3	31/01 Rece	ived: 07/31/	01	
Biochemical Oxygen Demand	ND	4.00	mg/l	1	EPA 405.1	07/31/01	08/06/01	0107118	
Dissolved Oxygen	5.68	1.00	"	"	EPA 360.1	07/31/01	07/31/01	0107115	
pН	7.00	0.100	pH Units	"	EPA 150.1	"	"	"	
Total Suspended Solids	ND	10.0	mg/l	"	EPA 160.2	08/01/01	08/01/01	0108003	

North Creek Analytical - Mobile Lab



Anchorage, AK 99502-1116

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported: 08/14/01 10:30

Project Manager: Anne Kranawetter

Microbiological Parameters per APHA Standard Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE13SW (M107059-01) Water					Sampled: 07/	/31/01 Rece	eived: 07/31/	01	
E. Coli	2.00	2.00M	PN/100 m	1 1	SM 9221	07/31/01	08/01/01	0107117	
Total Coliforms	2420	2.00	"	"	"	"	"	"	

North Creek Analytical - Mobile Lab

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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

08/14/01 10:30

Polychlorinated Biphenyls per EPA Method 8082 - Quality Control

North Creek Analytical - Mobile Lab

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0107116 - 3520B Liq-Liq

Blank (0107116-BLK1)				Prepared & A	Analyzed: 08/0	1/01			
Aroclor 1016	ND	0.200	ug/l	•					
Aroclor 1221	ND	0.400	"						
Aroclor 1232	ND	0.200	"						
Aroclor 1242	ND	0.200	"						
Aroclor 1248	ND	0.200	"						
Aroclor 1254	ND	0.200	"						
Aroclor 1260	ND	0.200	"						
Surr: 2,4,5,6-Tetrachloro-m-xylene	0.333		"	0.400	83.2	44-119			
Surr: Decachlorobiphenyl	0.367		"	0.400	91.8	54-128			
LCS (0107116-BS1)				Prepared & A	Analyzed: 08/0	01/01			
Aroclor 1254	0.836	0.200	ug/l	1.00	83.6	47-155			
Surr: 2,4,5,6-Tetrachloro-m-xylene	0.318		"	0.400	79.5	44-119			
Surr: Decachlorobiphenyl	0.364		"	0.400	91.0	54-128			
LCS Dup (0107116-BSD1)				Prepared & A	Analyzed: 08/0	1/01			
Aroclor 1254	0.829	0.200	ug/l	1.00	82.9	47-155	0.841	50	
Surr: 2,4,5,6-Tetrachloro-m-xylene	0.285		"	0.400	71.2	44-119			
Surr: Decachlorobiphenyl	0.352		"	0.400	88.0	54-128			

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Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776

Prepared: 07/31/01 Analyzed: 08/02/01

ND

ND

ND

ND

ND

ND

ND

ND

0.100

0.100

0.100

0.100

0.100

0.100

Prepared: 07/31/01 Analyzed: 08/02/01

99.9

86.8

90.5

88.1

104

43.4

75-125

75-125

75-125

75-125

75-125

75-125

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Bristol Environmental & Engineering

Anchorage, AK 99502-1116

2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported: 08/14/01 10:30

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Q-05

Q-02

46.4

North Creek Analytical - Mobile Lab

Portland

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		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Total Metals per EPA 6000/7000 Series Methods - Quality Control

Project Manager: Anne Kranawetter

-	~ 4 ^ =				
Batch	0107	110.	- КРА	. 200	/3005

Blank (0107110-BLK1)

Selenium

Matrix Spike (0107110-MS1)

Silver

Arsenic

Lead

Silver

Cadmium

Selenium

Chromium

Arsenic	ND	0.00500	mg/l					·	
Cadmium	ND	0.00200	"						
Chromium	ND	0.00500	"						
Lead	ND	0.00500	"						
Selenium	ND	0.00500	"						
Silver	ND	0.00200	"						
LCS (0107110-BS1)				Prepared: 07/31	1/01 Analyz	zed: 08/02/01			
Arsenic	0.0923	0.00500	mg/l	0.100	92.3	80-120			
Cadmium	0.0854	0.00200	"	0.100	85.4	80-120			
Chromium	0.0883	0.00500	"	0.100	88.3	80-120			
Lead	0.0882	0.00500	"	0.100	88.2	80-120			
Selenium	0.0944	0.00500	"	0.100	94.4	75-115			
Silver	0.0899	0.00200	"	0.100	89.9	80-120			
Duplicate (0107110-DUP1)	Sou	rce: M1070	48-01	Prepared: 07/31	1/01 Analyz	zed: 08/02/01			
Arsenic	ND	0.00500	mg/l	ND		72	2.4	20	Q-05
Cadmium	ND	0.00200	"	ND				20	
Chromium	ND	0.00500	"	ND		1	46	20	Q-05
Lead	ND	0.00500	"	ND		33	3.2	20	Q-05

ND

ND

0.101

0.0868

0.0913

0.0901

0.104

0.0437

0.00500

0.00200

Source: M107048-01

0.00500

0.00200

0.00500

0.00500

0.00500

0.00200

mg/l

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering

Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported: 08/14/01 10:30

20

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

ND

10.0

mg/l

Conventional Chemistry Parameters per APHA/EPA Methods - Quality Control

	North	Creek A	nalytic	al - Mo	bile Lal)				
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 0107115 - Wet Chem										
Duplicate (0107115-DUP1)	Sour	ce: M1070	59-01	Prepare	d & Analy	zed: 07/3	1/01			
pH	7.00	0.100	pH Units		7.00			0	200	
Batch 0107118 - Wet Chem										
Blank (0107118-BLK1)				Prepare	d: 07/31/0	1 Analyz	ed: 08/06/0	1		
Biochemical Oxygen Demand	ND	4.00	mg/l							
LCS (0107118-BS1)				Prepare	d: 07/31/0	1 Analyz	ed: 08/06/0)1		
Biochemical Oxygen Demand	181	4.00	mg/l	198		91.4	75-125			
Duplicate (0107118-DUP1)	Sour	ce: M1070	59-01	Prepare	d: 07/31/0	1 Analyz	ed: 08/06/0	1		
Biochemical Oxygen Demand	ND	4.00	mg/l		ND	-			40	
Batch 0108003 - Wet Chem										
Blank (0108003-BLK1)				Prepare	d & Analy	zed: 08/0	1/01			
Total Suspended Solids	ND	10.0	mg/l							
LCS (0108003-BS1)				Prepare	d & Analy	zed: 08/0	1/01			
Total Suspended Solids	121	10.0	mg/l	120		101	80-120			
Duplicate (0108003-DUP1)	Sour	ce: M1070	59-01	Prepare	d & Analy	zed: 08/0	1/01			

ND

North Creek Analytical - Mobile Lab

Total Suspended Solids



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported: 08/14/01 10:30

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

Microbiological Parameters per APHA Standard Methods - Quality Control

North Creek Analytical - Mobile Lab

		Reporting		Spike	Source %R		%REC	RPD			
A	Analyte Re	esult	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0107117 - Wet Chem

Blank (0107117-BLK1)		Prepared: 07/31/01 Analyzed: 08/01/01					
E. Coli	ND	2.00 MPN/100					
		ml					
Total Coliforms	ND	2.00 "					

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter 08/14/01 10:30

Notes and Definitions

Q-02 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Q-05 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.

wet Sample results reported on a wet weight basis (as received)

RPD Relative Percent Difference

North Creek Analytical - Mobile Lab

Items for Project Manager Review

LabNumber Analysis		Analyte	Exception
			Report recreated from: \\sisters\elmnt\Report\M107059 FINAL 08 14 01 1030.mdb
			Default Report (not modified)
0107110-DUP1	Ag Total ICPMS 6020	Silver	Q-05
0107110-DUP1	Ag Total ICPMS 6020	Silver	Exceeds RPD limit
0107110-DUP1	As Total ICPMS 6020	Arsenic	Q-05
0107110-DUP1	As Total ICPMS 6020	Arsenic	Exceeds RPD limit
0107110-DUP1	Cr Total ICPMS 6020	Chromium	Q-05
0107110-DUP1	Cr Total ICPMS 6020	Chromium	Exceeds RPD limit
0107110-DUP1	Pb Total ICPMS 6020	Lead	Q-05
0107110-DUP1	Pb Total ICPMS 6020	Lead	Exceeds RPD limit
0107110-MS1	Ag Total ICPMS 6020	Silver	Q-02
0107110-MS1	Ag Total ICPMS 6020	Silver	Exceeds lower control limit